

IN THE SPECIFICATION:

Please amend the specification as follows:

Page 1, Lines 1-6:

This application relates to U. S. Patent Application Serial No. \_\_\_\_\_, 09/865,127, entitled SPA AUDIO SYSTEM OPERABLE WITH A REMOTE CONTROL, filed on the same date hereof, and now U.S. Patent No. 6,516,070 granted February 4, 2003.

Page 4, Line 28, through Page 8, Line 6:

Referring now to the drawings and Figure 1 in particular, a remote control 10 is illustrated. RF signals from the remote control 10 are low power, but adequate to reach an antenna 17 within a spa (~~not shown in Figure 1~~) 16. The power is preferably low to avoid interference with a neighbor's radio or television reception. The remote control 10 also receives status signals back from the spa regarding the status of such things as water temperature, and the like as will be explained in greater detail hereafter.

The remote control 10 includes a display 11 having icons displayed thereon, which represent various functions ~~to-~~ as will be amplified hereinafter. The remote control 10 also includes a mode button 12 for changing the function of the remote from one mode to another; and, a switch 13 having a pair of buttons marked +/- ("ON/OFF" or "increase/decrease") ~~button 13~~ for use in conjunction with the mode button 12 for changing or setting a function. The remote control 10 is preferably powered by three AAA batters, is preferably waterproof and is preferably capable of floating ~~in-~~ on water.

According to a specific embodiment of the present invention, the remote control 10 operates ~~upon~~ under the control of a master or main control 15 located within a spa 16. The

~~master main~~ control 15 receives signals from the remote control 10 via an antenna 17, ~~which also~~ and transmits ~~status~~ information back to the remote control by the same antenna 17.

Referring now to Figure 2, the display 11 of the remote control 10 is shown in greater detail. The display 11 includes numerous icons, which indicate the status of various functions of the spa 16. A Ready Light icon 20 will illuminate when the temperature of the water in the spa 16 is within 2 degrees of ~~the a~~ selected temperature. A Power Light icon 21 will illuminate when the spa system is turned on and power is connected.

An Alpha/Numeric display array 22 is disposed for indicating numerous functions selected by the mode switch 12, or for displaying information received back from the master control 15. For example, when ~~the~~ temperature mode is selected by pressing the mode button 12 (Figure 1), a Temp Light icon 23 illuminates and the temperature of the water 23A is indicated by the display array 22. When a temperature setting set mode is to be selected by the mode button, a Set Light icon 24 will illuminate. ~~and as As the +/- switch or buttons 13 is moved (up or down) are pressed, the temperature to be is moved up or down as selected will be and is~~ shown by the display array 22. As the remote control 10 communicates with the master control 15, a Comm icon 25 will flash, which indicates communication is taking place between the two units.

Additional functions that may be indicated by the display 11 on the remote control 10 include a Water Care icon 26, which when illuminated indicates that the sanitary system of the spa 16 is operating normally or not. ~~Another A~~ Light icon 27 will illuminate when the mode switch 12 is stepped to selects the spa light switch function. ~~Depressing In the spa light mode, depressing the + side button of the switch 13 will turn the spa light 27 on, and depressing the - side button of the same switch 13 will turn the spa light off.~~

In a similar fashion, ~~the jets of the spa can be turned on and off, and when the mode switch is in 12 has selected~~ the jets mode, a Jets icon 28 illuminates ~~and the jets of the spa can be turned on and off using the buttons of Switch 13.~~ A SpAudio icon 29 illuminates when the mode switch 12 is stepped to this function ~~and when~~. When the + side button of the switch 13 is depressed, the SpAudio turns on. In a similar manner, when the – side button of the switch 13 is depressed, the SpAudio turns off. The SpAudio feature is explained in greater detail in the U.S. Patent Application Serial No. \_\_\_\_\_, 09/865,127, entitled SPA AUDIO SYSTEM OPERABLE WITH A REMOTE CONTROL, filed \_\_\_\_\_, May 24, 2001, now U.S. Patent No. 6,516,070, and assigned to the assignee hereof.

A Summer Timer light icon 30 illuminates when the mode switch ~~13-~~ 12 is stepped to this function, and when the + side button of this switch 13 is depressed, this function is turned ~~on in on.~~ In a similar manner, when the – side button of this switch 13 is depressed, this function is turned off.

The Summer Timer function is useful in a warm climate. For example, in a place like Arizona in the summer time the ambient temperature may be quite high. Also, a A feature of the spa 16 is to continuously circulate the water by ~~a~~ the heater to maintain a set temperature. In a warm climate, when using the water circulate feature, the water temperature may rise above a desired setting. Accordingly, by turning on the Summer Timer function, the water is not circulated continuously ~~in order to help.~~ This helps to maintain the pre-set desired temperature.

Another function indicated by the display 11 is a Lock Light icon 31. The Lock function can do two things. First, the entire spa system can be locked so that no one can make changes to the settings – unless they have the remote control. Secondly, the temperature setting can be locked to a pre-selected setting while the other functions are ~~accessible~~ not locked.

Referring now to Figures 3A through 3E, a variety of displays that may be shown by the display 11 or on the remote control 10 are shown illustrated. Figure 3A shows a set temperature display. Note that the Ready and Power icons 20 and 21, respectively, are illuminated, as well as the Set and Temp icons, 24 and 23, respectively; and, the temperature setting of 103°F is shown. Figure 3B shows the display when the remote control 10 is set in the Light mode. Note that the word LIGHT 22B appears across the display array 22, while the Light icon 27 is illuminated. Figure 3C shows the spa 16 is clean when in the Water Care mode, wherein icon 26 is illuminated and the word CLEAN 22C appears across the display array 22. Figure 3D shows the display when the status of the spa has a low PH, or high acidity. Note that the Water Care icon 26 is illuminated and the term LO PH 22D appears across the display array 22. Figure 3E shows the display array 22 when the remote is in the Jet setting mode. Note that the Jets icon 28 is lit and the term JETS2 22E appears across the display array 22. The term JETS2 refers to the water-jet pump number 2.

Page 8, Line 21, through Page 9, Line 17:

Pushbutton inputs 42 are coupled to input terminals of the MPU 35 to receive signals from the mode button 12 or the +/- selection switch 13. Display Driver 43 is coupled to outputs of the MPU 35 in a conventional manner, which in turn drive the display 11 described hereinabove. The display 11 also includes a back light 44 made up of Light Emitting Diodes (“LED”). An Internal Monitor 45 is coupled to the MPU for the purpose of determining any MPU non-conforming operation. RF signals are transmitted from the remote control 10 or received from the ~~master controller~~ main control 15 by means of a transceiver 46 and an antenna

47. The operation of the remote control 10 will be more fully appreciated hereinafter with the description accompanying Figures 6A and 6B.

At this juncture, reference is made to Figures 5A and 5B for a block diagram of the system including the a master control 18 which with RF module 60 is the Main Control 15. A number of sensing devices are coupled to the master control 15- 18, such as a Temp Sensor 50, which senses the spa water temperature. Spa Lights 51 52 are controlled by the master controller 15 as are Jets 52- 51 and Heater 53. A Current Sense 54 senses the current in the water heater and jet pumps and provides appropriate inputs indicative thereof to the master controller 15. 18. A water circulating pump 55 and a color wheel 56 are likewise controlled by the master controller 15. 18. The term color wheel refers to an apparatus for changing the color of the light in the spa, but not necessarily by an actual color wheel. A remote control panel 57 for the spa 16 also provides inputs to the master control 15. 18.

Page 9, Line 23, through Page 10, Line 15:

Referring now to Figure 5B, the IIC bus 59 is coupled to an RF interface module 60, which performs an RF to IIC slave control. The RF interface module 60 includes a UART (Universal Asynchronous Receiver/Transmitter), which is an integrated circuit used for serial communications, containing a transmitter (parallel-to-serial converter) and a receiver (serial-to-parallel converter), each clocked separately. UART's are well known in the industry and will not be discussed further herein. The remote control 10, described hereinabove, is adapted to communicate with the master controller 15 18 by means of the UART.

Also coupled to the IIC bus 59 are such devices as a Water Treatment system 61 and a SpAudio 62, which is disclosed in greater detail in U.S. Patent Application Serial No.

, 09/865,127, entitled SPA AUDIO SYSTEM OPERABLE WITH A REMOTE CONTROL, filed \_\_\_\_\_, May 24, 2001, now U.S. Patent No. 6,516,070, and assigned to the assignee hereof.

An IR module 58- 63 is also coupled to the IIC bus 59-which. This module is used for servicing the spa. An infrared ("IR") link couples a remote control 64 to the module 63. The remote 64, may\_ for example, comprise a PalmPilot device used by service technicians. PalmPilot is a product available from Palm, Inc. of Santa Clara, CA 95052.

A separate control panel 65 for the spa 16 may likewise be coupled to the IIC bus 59.

Page 11, Line 26, through Page 12, Line 10:

Referring now to Figure 6B, a flow chart of the NRM process (Normal Receive Mode) is shown. The process begins with a start bubble 120 followed by an inquiry as to whether or not data was received (diamond 121). If the answer to this inquiry is yes, then Entry is set equal to zero (ENTRY = 0, bubble 122). ENTRY counts the number of communication attempts between the remote and the RF module. Next, the request is sent to the RF interface module 60 (block 123) and the 100 millisecond timer is started (block 124). After this, the RF remote listens to the RF interface module 60 (Figure 5B) (block 125) for data to determine what should be displayed. An inquiry is then made as to whether or not valid data was received (diamond 126). If the answer to this inquiry is yes, then the data is displayed (block 127) and the process ends (bubble 128). Note that if no data was requested (diamond 121)\_ then the NRM process ends.